



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,533	07/08/2005	Magnus Thulesius	3782-0263PUS2	1482
2292 7590 08/30/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER DIAO, M BAYE	
			ART UNIT 2838	PAPER NUMBER
			NOTIFICATION DATE 08/30/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/541,533

Applicant(s)

THULESIUS ET AL.

Examiner

M'baye Diao

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 08 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 23-26, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 6-22 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 07/08/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed on 07/08/2005 has been considered and placed of record. An initialed copy is attached herewith.

Specification

3. The disclosure should be carefully reviewed to ensure that any and all grammatical, idiomatic, and spelling or other minor errors are corrected.

Drawings

4. The drawings are objected to because they only contain reference numerals. The drawings should also be labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after

Art Unit: 2838

the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claims 6-22 & 27 are objected to because of the following informalities: The claims (6-22, and 27) refer back to other multiple dependent claims.

Claims 6-22 & 27 are objected to under **37 CFR 1.75(c)** as being in improper form because a multiple dependent claim should refer to other claims in the alternative only, and/or, cannot depend from any other multiple dependent claim. See **MPEP § 608.01(n)**. Accordingly, the claims 6-22 & 27 have not been further treated on the merits.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1 - 5, and 23-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Koenck et al., (Koenck) US PAT 4,709,202.**

Art Unit: 2838

8. As per claims 1, Koenck et al. disclose (abstract; col. 4, ls. 25+; col. 5, ls. 1-29; col. 6, ls. 10+; cols. 45-47; col. 48, ls. 1-61) and show in Figs. 1, 5, 15, and 16B:

A power management unit (commercial unit) for a portable electronic apparatus (10)(see Fig. 1), which is powered by at least a battery (20),(18)(see Figs. 3-4), the power management unit being implemented as an integrated circuit, characterized in that the power management unit comprises at least one of:

a general purpose analog-to-digital converter block(15-11)(see Figs. 15 & 16B) comprising a first switch (SW1) for selecting one of at least two analog input signals (PBØ,PB1,PB2,PB3) (analog signals being provided at the inverting inputs (161) through (164)), and an analog-to-digital converter (15-11) which is arranged to convert said selected analog input signal into a digital signal (which is inherent of an analog to digital converter) (see col. 9, lines 36+);

an analog event generator block (52), which is arranged to provide an indication for controlling (by the processor circuit (140), see Figs. 9A and 9B) an operating state of said power management unit when a third analog input signal (171) assumes a predetermined relation to a predetermined reference value (3V) (col. 9, ls. 36-51);

a timer block (54), which is operable for providing a timing signal independently of which one of a plurality of operating states the power management unit is operable in (see col. 22, ls. 3-7 and see Fig. 14); and

Art Unit: 2838

a battery charge control block ((101) in Fig. 5; CPU (15-25) in Fig. 15), which is capable of controlling a battery charge current based on an estimated charge power (inherent of a CPU)(see col. 10, ls. 60-67)(claim 23).

Accordingly, claims 1 and 23 are anticipated.

9. As per claim 2, Koenck et al. disclose (col. 46, ls. 51-58) that the power management unit as claimed in claim 1, characterized in that the power management unit comprises said general purpose analog-to-digital converter block ((15-11) (see Fig. 15)), wherein one of said at least two analog input signals ((161) through (164), see Fig. 9B) represents (since the parameters measured are main battery voltage, charger voltage, main battery temperature, backup battery voltage) a temperature, a force, a pressure, a battery charge current, a battery voltage or an input voltage.

Accordingly, claim 2 is anticipated.

10. As per claims 3-4, Koenck et al. disclose (col. 50, ls. 33+) that As shown in FIG. 15, the commercial unit has incorporated a serial, differentially configured analog to digital converter and this converter is shown at (15-11) in the lower right corner of FIG. 16B. The parameters measured are main battery voltage, backup battery voltage, charger voltage, and main battery temperature. This information is used by software(thus programmable)(claim 4) to control battery charge/discharge cycles and to alert the end user of low battery conditions, thus meeting the limitation, of" The power management unit as claimed in claim 1, characterized in that the power management unit comprises said general purpose analog-to-digital converter block (57), wherein the general purpose analog-to-digital converter block comprises task list means, indicative

Art Unit: 2838

of a sequence in which said at least two analog input signals are to be processed by said analog-to-digital converter, whereby said first switch is controlled according to said task list means ”.

Accordingly, claims 3-4 are anticipated.

As per claim 5, Koenck implicitly discloses that the analog-to-digital (15-11) inherently comprises averaging means for providing an average of said digital signal as confirmed by Jr. et al., (Baker) of US PAT 3,820,391. (Baker discloses (col. 6, ls. 16-20) that it is inherent for an ADC to include means of averaging signals since averaging of the signal requires only counting over the specified time – avoiding the necessity for an analog-to-digital converter)(see MPEP 2131.01 (C)).

Accordingly, claim 5 is anticipated.

11. As per claims 24 - 26, Koenck et al. disclose (col. 13, ls. 1-20 & ls. 53+col. 14, ls. 63-67; col. 15 and see TABLE B) on channel 0 where the charge voltage of the battery is displayed, on channel 1 where the discharge current is displayed and on channel 2 where the battery terminal voltage is displayed, thus meeting the limitations of claims 24-26.

12. Accordingly, claims 24 - 26 are anticipated.

13. As per claim 28, Koenck et al. discloses (col. 49, ls. 1-66) and show in Figs. 13, 16A & 16B that the power management unit as claimed in claim 1, characterized by a test block (15-14) comprising a second test multiplexer (SW2), which

is arranged for subjecting one of a plurality of test points (JP1,JP2, P3-2, P3-6,P3-3,P3-5,P3-4,P3-1, and PA1 to PA4 see Fig. 13) to a load (16-21,U6), and a first test multiplexer (M BAT SEL, B BAT SEL, BAT MUX, see Fig. 16B) which is arranged for selecting one of said plurality of test points (BAT MUX) and for providing an analog test signal (main battery voltage, backup battery voltage, charger voltage, and main battery temperature.) from said selected test point ((JP1,JP2, P3-2, P3-6,P3-3,P3-5,P3-4,P3-1, and PA1 to PA4) to said general purpose analog-to-digital converter (15-11).

Accordingly, claim 28 is anticipated

14. As per claim 29, Koenck discloses (col. 49, ls. 24+) and show in Figs. 16 A & 16B that the power management unit as claimed in claim 28, characterized in that said one of said plurality of test points (JP1,JP2,P3-2, P3-6,P3-3,P3-5,P3-4,P3-1, and PA1 to PA4 see Fig. 13) which is subjected to said load (since charging of DC/DC converter 16-1 and charging of operational amplifier U6 is done by the main batteries) is identical to said one (P3-2, P3-6, of battery 12-20) of said plurality of test points (JP1,JP2,P3-2, P3-6,P3-3,P3-5,P3-4,P3-1, and PA1 to PA4 see Fig. 13) which is selected by said first test multiplexer (SW1).

Accordingly, claim 29 is anticipated.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related apparatus.

Art Unit: 2838


Any inquiry concerning this communication or earlier communications from the examiner should be directed to M'baye Diao whose telephone number is 571-272-9748. The examiner can normally be reached on 8:30-5:00; First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

M'baye Diao
Examiner
Art Unit 2838

M.D


BAO Q. VU
PRIMARY EXAMINER